

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US99/01341**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :A63B 37/06, 37/12

US CL :473/373, 378

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 473/373, 374, 378

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,863,167 A (MATSUMI ET AL) 05 SEPTEMBER 1989, SEE ENTIRE DOCUMENT	1-12
Y	US 5,688,191 A (CAVALLARO ET AL) 18 NOVEMBER 1997, SEE COLUMN 7, LAST 3 LINES	1-12

 Further documents are listed in the continuation of Box C. See patent family annex.

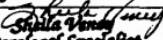
* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*"A"	document defining the general state of the art which is not considered to be of particular relevance	
*"E"	earlier document published on or after the international filing date	
*"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	
*"O"	document referring to an oral disclosure, use, exhibition or other means	
*"P"	document published prior to the international filing date but later than the priority date claimed	"a." document member of the same patent family

Date of the actual completion of the international search

23 FEBRUARY 1999

Date of mailing of the international search report

07 APR 1999

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231  
Facsimile No. (703) 305-3230Authorized officer  
  
GEORGE J. MARLO  
Telephone No. (703) 308-2054  
Paralegal Specialist  
Technology Center 3700